

ABSTRACT

5 The invention is directed generally to the structure of prenyltransferases,
particularly undecaprenyl pyrophosphate synthase, an enzyme important in bacterial
cell wall synthesis. The invention relates to the crystal structure of undecaprenyl
pyrophosphate synthase from *Streptococcus pneumoniae* and its interaction with
cofactors and ligands. The invention also relates to the structure of ligand and
cofactor binding sites of undecaprenyl pyrophosphate synthase.